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Association between social class and metabolic syndrome in a Tunisian population

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Background and aims In Tunisia, demographic changes and social transition lead to many changement within the Tunisian population. The relationship between social class and metabolic syndrome has received little attention in recent years. In this study we sought to evaluate the consequences of these transitions in a sample of Tunisian subjects with metabolic syndrome.

Methods Three hundred ninety three of the general population, aged between 18-75 years, participated in this study. Education level, occupation, monthly income, age, body weight, body height, waist circumference, blood pressure were collected. Glycaemia, triglycerides, total cholesterol and HDL-cholesterol were measured. Participants were classified into two groups according to the health state: healthy (Group 1, n=105) and patient having metabolic syndrome according to the recent diagnostic criteria of the International Diabetes Federation and the American Heart Association/National Heart, Lung, and Blood Institute (2009) (Group 2, n=288).

Results Individuals with metabolic syndrome are older than healthy group (55.1±15.4 years vs 42.2±13.8 years), the most common in the healthy group are manufacturing and liberal profession while in patient group are retired or unemployed participants. Within the whole population 40% had primary level of study. Illiteracy is more frequent in group 2 than group 1 (34.1% vs 22.5%). Smoking behavior and alcohol drinking are similar in both group. Additionally, our results show that the highest quintile of income (Q5) was recorded in group 1 with 15.9% against 1.4% in group 2.

Conclusion The current study strengthens that healthy participants are younger and more educated than patients. Lower education and monthly income level are associated with higher risk of metabolic syndrome among the Tunisian individuals.

The author hereby declares no conflict of interest

0252

Control of cardiovascular risk factors in revascularized patients with diabetes: Algerian experience

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Introduction and objectives Patients with type 2 diabetes and revascularized coronary disease are a group with very high cardiovascular risk that has been rarely studied. This Algerian study analyzes the clinical characteristics and risk factor control of these patients.

Methods The analysis selected patients with type 2 diabetes who had participated in a multicenter, observational study (military hospitals of Algeria) conducted in 978 patients >18 years of age who had undergone coronary surgery or percutaneous coronary intervention. Demographic and therapeutic variables, as well as clinical and analytical parameters, were collected and comparatively analyzed.

Results The mean age (standard deviation) of the 371 diabetic patients included in the analysis was 67.7 (9.6) years (71.3% men; mean time since revascularization, 3.5 years). Most (57.6%) were receiving treatment with oral hypoglycemics alone, where as 30.4% were receiving insulin alone or in combination. The mean glycohemoglobin figure was 7.3% (in 72%, <7.5%); 73.9% had been diagnosed with dyslipidemia. Mean low-density lipoprotein cholesterol was 93.5mg/dL (in 73%, >70mg/dL). Among these patients, 93.5% were receiving statins. A total of 76.4% had been diagnosed with hypertension; systolic/diastolic blood pressure was <130/80mmHg in 56% and <140/90mmHg in 93%.

Conclusions Cardiovascular risk and prevention may be improved in revascularized diabetic patients in Spainthroughfurthercontrol of riskfactors, particularly dyslipidemia.

Patients with glycohemoglobin >7.5% should be individually assessed in terms of glycemic targets.

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Erythrocyte membrane phospholipid fatty acids, dairy intakes and cardiovascular risk

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Introduction The impact of dairy fats on cardiovascular risk has been debated. Circulating Pentadecanoic (15:0) and heptadecanoic (17:0) saturated fatty acids are good biomarkers of dairy product consumption as they are mainly provided by dairy fats. We described the prevalence of cardiovascular risk factors according to erythrocyte membrane phospholipid content in 15:0 and 17:0 fatty acids.

Methods 402 women and men aged 45-64 were randomly selected in 2005-2007, from the general population of three French areas. Nutritional data were collected through a 3-day food record. Fatty acid content was measured in erythrocyte membrane phospholipids.

Results Erythrocyte membrane contents in 15:0 and 17:0 fatty acids significantly increased with the consumption of dairy products collected during the 3-day food record. Prevalence of hypertension significantly decreased from the lowest to the highest quartile of 15:0 erythrocyte content (48.1%; 33.3%; 29.9%; 25.5%; p=0.005). A similar trend was observed for metabolic syndrome prevalence (39.4%; 28.1%; 25.2%; 21.3%; p=0.029). Prevalence of hypertension, hypertriglyceridaemia, overweight and metabolic syndrome significantly decreased from the lowest to the highest quartile of 17:0 erythrocyte content (44.1%; 36.5%; 28.1%; 25.6%; p=0.020 for hypertension; 30.3%; 15.4%; 16.9%; 16.7%; p=0.017 for hypertriglyceridaemia; 68.1%; 58.7%; 46.6%; 44.4%; p=0.002 for overweight; and 43.2%; 26.9%; 22.5%; 17.8%; p<0.001 for metabolic syndrome). All these relationships remained significant after adjustment for age and gender. The link did not reach significance level for diabetes.

Conclusion Elevated erythrocyte membrane phospholipid contents in 15:0 and 17:0 saturated fatty acids are associated with a lower prevalence of the metabolic syndrome and several of its components. These results suggest that saturated fat intake should not be systematically associated with high cardiovascular risk and can be considered as part of a balanced diet.

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Impact of cardiovascular risk factors management on long-term all-cause and cardiovascular mortality: an observational study

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Background In clinical trials, lowering cardiovascular risk factors (RF) reduce cardiovascular (CV) morbidity and mortality. Nonetheless, few data exist on general population.

Purpose We assessed the impact of the control of RF at baseline on long-term all-cause and CV mortality in French general population.

Methods Analysis was based on the participants aged 35-64 of the Third French MONICA population-based survey on RF (1995-1996). Vital status was obtained 18 years after inclusion. Statistical analysis was based on multivariable Cox modelling. We assessed the impact of the control (according to the threshold recommended in the guidelines currently used at the time of recruitment) of high blood pressure, high LDL-cholesterol, diabetes and smoking.

Results In our study, 3402 subjects were included. Half were men and 2.5% had history of Coronary Heart Disease. Moreover 569(17%) subjects had 2 or more non-controlled RF, 1194(35%) had 1 non-controlled RF, 770(23%) had all RF controlled under treatment (or were former smokers) and 869(25%) had none RF. During the follow-up, 389 deaths occurred (76 due to a CV cause). Considering all-cause mortality, after adjustment for centre, age, gender, educational level, proxies of alcohol consumption plus medical history of chronic disease, the hazard ratio(HR) for subjects presented 1 non-controlled RF and for subjects presented 2 or more non-controlled RF was 1.38[1.03-1.83](p=0.029) and 1.80[1.33-2.43](p<0.001), respectively, as compared to subjects presented all RF controlled. For subjects presented none RF, adjusted HR was 0.66[0.44-0.98] (p=0.042). Considering CV mortality, adjusted HR for subjects presented 1 non-controlled RF and for subjects presented 2 or more non-controlled RF was 1.70[0.84-3.42](p=0.138) and 3.67[1.85-7.29](p<0.001), respectively, as compared to subjects presented all RF controlled or none RF.

Conclusions Failing to control RF increases significantly long-term all-cause and cardiovascular mortality.

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0520

Determinants of 3-year mortality after an acute coronary syndrome – the French population MONICA registry

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Background Determinants of short-term mortality after acute coronary syndrome (ACS) are relatively well known. However, those for middle-term mortality aren't clearly established.

Purpose The aim of our study was to describe 28-day mortality in patients hospitalized for ACS in comparison with the middle-term mortality.

Methods this study was based on data from 6812 people aged 35-74 years hospitalized for a first or a recurrent ACS, registered in the Strasbourg and Toulouse MONICA registry between 2009 and 2011. Three categories of ACS were defined: (ST+), ACS with ST elevation at ECG; (ST-Enz+), ACS with no ST elevation plus significant cardiac enzyme elevation; (ST-Enz-), ACS with no ST elevation and no enzyme elevation.

Results The mean of follow up was 3.3±1.1 years with a maximum of 5 years. In all there were 2441 (35.8%) ACS with (ST+), 1548 (22.7%) ACS with (ST-Enz+) and 2823 (41.4%) patients with (ST-Enz-). The 28-day mortality rate (number of deaths =760) was 11.2% [8.9-13.4] and the middle-term mortality (number of deaths =576) rate was 9.5% [7.1-11.9]. The risk of death at 28-days was (OR [95% CI]) 0.67 [0.51-0.88] for (ST-Enz+) and 2.74 [2.29-3.28] for (ST-Enz-) in comparison with (ST+). After multivariate adjustments; region, gender, age, history of IHD and complications at hospital admission odds ratios remained significant; 0.70 [0.5-0.88] for (ST-Enz+) and 3.56 [2.8-4.54] for (ST-Enz-) respectively. In patients who survived after 28 days (n=6052), the middle-term risk of death was after multivariate adjustments (HR [95% CI]) 1.42 [1.15-1.77] in (ST-Enz+) in comparison to (ST+) and 1.07 [0.86-1.32] in (ST-Enz-).

Conclusions For STEMI patients risk of death was higher at 28 day and lower when middle-term mortality was considered. These patterns were inverse for NSTEMI (ST+Enz-) patients. In the early years following ACS, mortality rate was around 2.9% each year.

The author hereby declares no conflict of interest

0185

Prevalence of conventional risk factors in 44154 Tunisians patients with coronary heart disease

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Introduction The prevalence of the major conventional cardiovascular risk factors (cigarette smoking, diabetes mellitus, hypertension, and dyslipidemia) among coronary heart disease (CHD) patients in Tunisia has not been studies extensively. The aim of this study was to evaluate the frequency of cardiovascular risk factors and their association in patients hospitalised for coronary heart disease at Rabta, charles Nicolle, Habib Thameur, Military Hospitals (Tunis), Fattouma Bourguiba hospital (Monastir), Farhat Hached, and Sahloul hospitals (Sousse); Mohamed Tahar Maamouri Hospital (Nabeul); Menzel Bourguiba Hospital and Ibn El Jazzar Hospital (Kairouan) over the period 1994-1998 and during 2004.

Methods The clinical features of 44154 patients (25635 men (58.1%) and 18519 women (41.1%) on hospital admission were analyzed.

Results 40.8% of the patients were hospitalized for coronary deficiency, 16.5% for valvular cardiopathy, 4.8% for cardiomiopthy, 16.9% for arrhythmia and conduction disturbance, 3.6% for essential hypertension, 2.5% for stroke and 14.9% for various pathologies.

The prevalence of hypertension, diabetes, smoking, obesity and dyslipidemia was 29.9%, 30.3%, 66.9%, 11.9%, and 30.2% respectively in the men and 43.5%, 30.2%, 3.5%, 14.6%, and 27.1% respectively in women.

Conclusion With this risk factor profile Tunisia has to implement a national strategy of primary prevention and heart health promotion in addition to the efforts recently made in secondary prevention of some chronic disease such as hypertension, diabetes, and smoking.

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Does leisure physical activity efficiently decrease the consequences of occupational social inequalities on cardiovascular diseases? Prime study

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Background regular leisure physical activity is encouraged to reduce the risk of cardiovascular disease (CVD) and mortality, but the observance of this guideline is not perfect. In parallel, the consequences of occupational-social inequalities on CVD have been well-described and persist.

Objective To assess the potential mediating effect of leisure physical activity on the consequences of occupational status on CVD.

Method 5683 French employed men were recruited from the cohort Prime study. Employees and manual workers were compared with white collar (chef of enterprise, intermediate staff). Hard CVD, myocardial infarction, angina, coronary death, total heart events and stroke were investigated over a 10 years follow-up. Leisure physical activity was measured using compendium physical activity. Cox analyses were used for analyzing the consequences of social inequalities on each event adjusted for classical cardiovascular risks. The propor-

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